

ABSTRACT OF THE DISCLOSURE

An ~~improved~~ external rotor motor, suitable for driving a cooling fan, has a structure which facilitates automated assembly with proper angular registration ~~of its components~~. The ~~motor has an external~~ rotor (42) with ~~has~~ a central shaft (40) which is rotatably supported inside a bearing support tube (38) having a tapered outer surface (98) formed with a circumferential stop (100) and ~~a plurality of~~ longitudinal guide grooves (102). An inner stator structure (22) is located radially between the bearing support tube (38) and the rotor (42). The ~~inner~~ stator has an internal recess (36) containing a securing ring or disk (20) with inwardly extending tabs (34). During assembly of the inner stator onto the bearing support tube (38), the tabs ~~of the securing ring~~ slide in the guide grooves (102), then bend to form barbs (34') which engage into the outer surface (98) of the bearing support tube, thereby securing the stator (22) on the bearing support tube in a ~~precisely~~ predefined angular orientation. The circumferential stop (100) assures insertion of the bearing support tube to the correct depth.

(FIG. 6)

ABSTRACT OF THE DISCLOSURE

An external rotor motor, suitable for driving a cooling fan, has a structure which facilitates automated assembly with proper angular registration. The rotor has a central shaft which is rotatably supported inside a bearing support tube having a tapered outer surface formed with a circumferential stop and longitudinal guide grooves. An inner stator structure is located radially between the bearing support tube and the rotor. The stator has an internal recess containing a securing ring or disk with inwardly extending tabs. During assembly of the inner stator onto the bearing support tube, the tabs slide in the guide grooves, then bend to form barbs which engage into the outer surface of the bearing support tube, thereby securing the stator on the bearing support tube in a predefined angular orientation. The circumferential stop assures insertion of the bearing support tube to the correct depth.